

## **REMARKS**

Upon entry of this amendment, claims 1 and 3-31 are all the claims pending in the application. Claim 2 is canceled by this amendment.

### **I. Objections to the Specification**

The Examiner has objected to the specification for the reasons set forth on page 2 of the Office Action. Applicants have amended the specification in a manner to overcome this objection. The specification also includes editorial amendments that have been made for grammatical and general readability purposes. No new matter has been added.

Based on the foregoing, Applicants respectfully request that the Examiner reconsider and withdraw the objection to the specification.

### **II. Objection to the Claims**

The Examiner has objected to claims 15, 17, 18, 28, 30 and 31 for failing to further limit the subject matter of a previous claim. Applicants have amended the above-noted claims so as to further limit the subject matter of a previous claim, and therefore, Applicants submit that the amendments thereto overcome the Examiner's objection. Accordingly, Applicants respectfully request that the objection to the claims be reconsidered and withdrawn.

### **III. Claim Rejections under 35 U.S.C. § 112, second paragraph**

The Examiner has rejected claims 16, 17, 29 and 30 under 35 U.S.C. § 112, second paragraph as being indefinite. Applicants have amended these claims in a manner to overcome this rejection. In particular, Applicants note that the limitations identified by the Examiner now

have proper antecedent basis. Accordingly, Applicants respectfully request that the rejection be reconsidered and withdrawn.

#### **IV. Allowable Subject Matter**

Applicants thank the Examiner for indicating that claims 2, 6 and 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claims.

Applicants have amended claim 1 by incorporating all of the features recited in claim 2, thereby placing claim 1 in condition for allowance. Claims 3-18 depend from claim 1 and are therefore considered patentable at least by virtue of their dependency.

#### **V. Claim Rejections under 35 U.S.C. § 102**

The Examiner has rejected claims 1, 3-5, 7-9, 12, 13, 18-20, 25, 26 and 31 under 35 U.S.C. § 102(a) as being anticipated by Nakaso (U.S. 2002/0039430).

As noted above, claim 1 has been amended to include all of the features recited in allowable claim 2. Accordingly, Applicants submit that claim 1 is patentable over Nakaso, an indication of which is respectfully requested. Claims 3-5, 7-9, 12, 13 and 18 depend from claim 1 and are therefore considered patentable at least by virtue of their dependency.

Regarding claim 19, Applicants note that this claim recites the feature of a center portion provided with a strengthening portion which is flat in cross section and thicker than a edge portion. Applicants respectfully submit that Nakaso fails to disclose or suggest at least this feature of claim 19.

Nakaso discloses a diaphragm 21 having an edge portion 22 joined at a periphery thereof, wherein the edge portion 22 is held by a frame 23 (see paragraph [0047]). As shown in Fig. 1 of

Nakaso, the diaphragm 21 includes a center portion having convex portions 29a and concave portions 29b provided alternatively thereon so as to form continuous curvatures (see paragraph [0050]).

As noted above, claim 19 recites that the center portion is provided with a strengthening portion which is flat in cross section and thicker than the edge portion. Applicants note that the specification explicitly indicates at page 6, lines 9-16, that “thicker than the edge portion” means that “the thickness of a board forming the center portion is higher than the thickness of a board forming the edge portion”.

Accordingly, based on the language recited in claim 19, and the explicit definition provided in the specification, Applicants respectfully submit that the center portion of Nakaso is not provided with a strengthening member which is flat in cross section and thicker than the edge portion. As noted above, in Nakaso, a board forming the center portion of the diaphragm is not flat in cross section, but instead, is formed with continuous curvatures (see paragraph [0047]).

In view of the foregoing, Applicants respectfully submit that Nakaso fails to disclose, suggest or otherwise render obvious all of the features recited in claim 19. Accordingly, Applicants submit that claim 19 is patentable over Nakaso, an indication of which is respectfully requested.

Regarding claim 20, Applicants note that this claim has been amended to recite the feature of an edge portion having a shape so that an elasticity at a portion thereof close to a center of the diaphragm with respect to a first direction is larger than an elasticity at a portion thereof far away from the center of the diaphragm. Applicants respectfully submit that Nakaso fails to disclose or suggest at least this feature of claim 20.

As noted above, Nakaso discloses a diaphragm 21 having an edge portion 22 which is connected to the diaphragm 21. As shown in Fig. 1, however, the edge portion 22 of Nakaso is formed as a loop-shaped edge having a uniform height in cross section throughout the entirety of the diaphragm 21. Accordingly, as the edge portion 22 has a uniform height in cross section, and no ribs are provided on any part of the edge portion 22, Applicants respectfully submit that the elasticity of the edge portion 22 will be the uniform throughout. That is, each part of the edge portion 22 will have the same elasticity.

Accordingly, as each part of the edge portion 22 of Nakaso will have the same elasticity due to the structure of the edge portion 22, Applicants submit that Nakaso fails to disclose an edge portion having a different elasticity in different portions thereof.

Therefore, Applicants respectfully submit that Nakaso fails to disclose, suggest or otherwise render obvious the feature of an edge portion having a shape so that an elasticity at a portion thereof close to a center of the diaphragm with respect to a first direction is larger than an elasticity at a portion thereof far away from the center of the diaphragm, as recited in amended claim 20. Thus, Applicants submit that claim 20 is patentable over Nakaso, an indication of which is respectfully requested.

Claims 25, 26 and 31 depend from claim 20 and are therefore considered patentable at least by virtue of their dependency.

## **VI. Claim Rejections under 35 U.S.C. § 103(a)**

A. The Examiner has rejected claims 10, 11, 14-17, 23, 24 and 27-30 under 35 U.S.C. § 103(a) as being unpatentable over Nakaso in view of Thigpen (U.S. 6,104,825).

Claims 10, 11 and 14-17 depend from claim 1, and claims 23-24 and 27-30 depend from claim 20. Applicants respectfully submit that Thigpen fails to cure the deficiencies of Nakaso, as discussed above, with respect to claims 1 and 20. Accordingly, Applicants submit that claims 10, 11, 14-17, 23, 24 and 27-30 are patentable at least by virtue of their dependency.

B. The Examiner has rejected claim 22 under 35 U.S.C. § 103(a) as being unpatentable over Nakaso in view of Jasinski (U.S. 4,433,214).

Claim 22 depends from claim 20. Applicants respectfully submit that Jasinski fails to cure the deficiencies of Nakaso, as discussed above, with respect to claim 20. Accordingly, Applicants submit that claim 22 is patentable at least by virtue of its dependency.

## VII. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may best be resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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March 15, 2005